

Appl. No. 10/761,846  
Amdt. dated May 20, 2005  
Reply to Office Action of February 22, 2005

**AMENDMENTS TO THE SPECIFICATION:**

Please replace the paragraph beginning at page 2, line 3, with the following rewritten paragraph:

Korean Laid-open Patent Publication No. 2003-435543 discloses a micro-fluidic control system that includes a series of channels that allow a very small fraction of fluid to pass.

Please replace the paragraph beginning at page 3, line 30, with the following rewritten paragraph:

The above and other features and advantages of the present invention will become more apparent by describing in detail exemplary embodiments thereof with reference to the attached drawings in which:

FIG. 1 is an illustration of a microfluidic channel according to the present invention;

FIG. 2 is an illustration of a microfluidic channel showing inlets for a sample, a control, a dye and a buffer solution, and antibodies attached to an internal surface of the micro-fluidic channel;

FIG. 3 is an illustration of a cartridge according to the present invention; and

FIG. 4 is an illustration of an automated fluidic system according to the present invention, which includes the cartridge of FIG. 3, a compressed air storage tank, a buffer storage tank, and a detection unit; and

~~FIG. 5 is a 3-dimensional illustration of the cartridge according to the present invention using computer graphics.~~

Please replace the paragraph beginning at page 5, line 7, with the following rewritten paragraph:

Each of the reservoirs in the cartridge reservoir part 9 has a hydrophobic upper barrier 7 connected to a compressed-air inlet 6 and a hydrophobic lower barrier 98 connected to a liquid outlet. These hydrophobic barriers 7 and 98, which are porous, may be manufactured to allow only air to pass, not liquid, in an atmospheric pressure. The lower hydrophobic barrier 8 may have a larger average pore size than the upper hydrophobic barrier 7.

Please replace the paragraph beginning at page 8, line 3, with the following rewritten paragraph:

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A cartridge according to an embodiment of the present invention that includes the cartridge reservoir part 9, the microfluidic channel 10, the compressed-air inlets 6, the buffer inlet port 4, and the outlets 5, is schematically illustrated in FIG. 3. ~~A 3-dimensional image of the cartridge illustrated using computer graphics is shown in FIG. 5.~~ The cartridge is designed to be detachable from the automated fluidic system according to the present invention for easy measurement of color variation data for samples in the cartridge and for easy exchange, repair, and maintenance of the cartridge.